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AN HONEST DOLLAR.*

BY E. BENJAMIN ANDREWS.

It is always either assumed or admitted that the ideal sort of money would be money with a unit having a steadfast general purchasing power. Says Ricardo, in one of the ablest monetary treatises ever penned :

“All writers on the subject of money have agreed that uniformity in the value of the circulating medium is an object greatly to be desired. Every improvement, therefore, which can promote an approximation to that object, by diminishing the causes of variation, should be adopted. . . . A currency may be considered as perfect, of which the standard is invariable, which always conforms to that standard, and in the use of which the utmost economy is practiced. . . . During the late discussions on the bullion question it was most justly contended that a currency, to be perfect, should be absolutely invariable in value.”¹

*A Paper read at the Third Annual Meeting, Philadelphia, Dec. 28, 1888.

¹*Proposals for an Economic and Secure Currency*, sec. i, ii. But he mistakenly adds in sec. i: “No plan can possibly be devised which will maintain money at an absolutely uniform value, because it will always be subject to those variations to which the commodity itself is subject, which has been fixed upon as a standard. While the precious metals continue to be the standard of our currency, money must necessarily undergo the same variations in value as those metals.” See sec. iii. “Against such variation there is no possible remedy.” The fiat greenbackers have enough reason to appeal to Ricardo; yet Sir Jas. Steuart was the first to advance the idea of a currency without a specific standard. Ricardo was no absolutist. He proposed to continue gold as the standard, though doing nothing to regulate it. Thomas Aquinas [Op. Paris, 1871-’80,

Were money merely a medium of exchange, something to be spoken into being for each act of traffic and then annihilated, permanence in its worth could be dispensed with. But money, also, besides furnishing our system of value-denominations, measures value, serves as a reservoir of value, and as a standard for deferred payments. To fulfill ideally any one of the last-named offices it must preserve its general purchasing power unchanged.

Increase in the value of money robs debtors. It forces every one of them to pay more than he covenanted,—not more dollars, but more value, the given number of dollars embodying at date of payment greater value than at date of contract. Decrease in the value of money robs creditors, necessitating each to put up, in payment of what is due to him, with a smaller modicum of value than was agreed upon.

Such loss, whichever the direction of its incidence, is a misfortune not only jurally but also economically. It is so much friction against the natural and desirable free play of exchange among men. In case money gains in power over commodities, so that prices fall, a quite special degree of this friction is experienced. Under such circumstances money and titles to money become rich forms of property to hold, apart from the interest upon them, that is, apart from the use of them. Money is thus no longer freely exchanged, as it should be, for other forms of capital, but either hoarded or loaned to such as can thoroughly assure its return in kind. It will, of course,

vol. xxv, p. 455, cited by Horton, *Mon. Hist. and Mon. Jurisprudence*, p. 18] had of money this excellent *aperçu*: *Non semper est ejusdem valoris, sed tamen taliter debet esse constituta ut magis permaneat in eodem valore quam aliae res.*

be quoted as "easy" at such times, but this will by no means be a proof, as is often assumed, of its continuance in its former plentifulness relatively to the volume of trade, but of precisely the reverse. Interest is low in such a case not because money is as abundant as before, but because it is not, its scarcity having induced fall of prices and so paralysis in industry. Again and again in recent years the London *Economist* has reported money as easy but bullion in demand, low interest accompanying actual decrease in the volume of treasure.¹ Many of our brightest writers upon the monetary problems of the years just past have apparently failed to master this point.²

A rise in prices, or, what is the same, a fall in the value of money, though also an evil, has this incidental advantage, that, unless so marked as to imply undue speculation or other morbid commercial conditions, it tempts money out of its hiding-places into circulation, giving briskness to business. But this never does good enough to compensate for the evil of unsteadiness in the power of money. To have its value persistently the same,—that is the central virtue of good money.

All admit this, as has been said, yet many forget it. We have, in this country, for many years been hearing much about an honest dollar. What is an honest dollar? It is to be feared that few of the

¹ Nicholson, *Money and Monetary Problems*, 98 sq.

² See *infra*, the references to Kral, Laughlin, and Becker. Compare Sir Louis Mallet's note to the final Report of the Royal Commission on Changes in the Relative Values of the Precious Metals, esp. p. 120. He gives a table showing that although the precious metal production was very much smaller between 1844 and 1852 than between 1853-1863, the average rate of discount was lower at the same time.

people who love the phrase apprehend with much clearness its true meaning.

It is very often taken for granted that the gold dollar must be an honest dollar, and one may hear this alleged by reasoners in the same breath with the admission made by all, that money is good in proportion to its stability of value. The two positions are of course contradictory, except upon the pretense, which no well-informed person will offer, that gold never appreciates or depreciates.

Again, we often hear or read discourse to the effect that holders of money have a sacred moral right to all the increment of value which can possibly come to it, so that any effort to regulate, at least to limit, such increment, must be wrong, unjust to the creditor class. But this is an implicit, if it is not an explicit, denial to the primary truth of monetary science, that good money must have a steadfast general purchasing power. Gain in money's purchasing power is change in that power, and ought not to be. Of the two, loss in such power is more tolerable than gain : in other words, a *régime* of rising prices is less outrageous than one of falling prices. But either is a bad thing. An ideal dollar would buy always precisely the same amount of general commodity.

There seem to be many who would concede the unfairness of a monetary unit which admitted of falling prices, if assured that the fall arose from an increased cost of production in money itself, who allege the equity of the money, provided the fall has proceeded from lessened cost of producing goods. But this, again, is an untenable position, unless the just noted premise touching the importance of a stable monetary unit is false. It can make no difference

why the relation between money and commodity has changed. The simple fact of such change is proof that the money system is imperfect.¹ To justify an appreciating monetary unit, is to justify a *régime* of falling prices, a state of things which, besides involving no less injustice than waits upon rising prices, may easily retard the amassing of wealth as much in a year as would a national war.

Money may have appreciated, first, because the supply of it has decreased, as by losses of or by new difficulty in extracting precious metal; or second, because the demand for it has increased, as by absolute enlargement to the volume of work for money to do, or by the lessening of credit and barter exchanges; or third, because, while those two conditions remain the same, the average cost of producing given amounts of other articles than money has decreased.

Now people are very reluctant to look upon it as a fault in money to appreciate in this third way. Yet it certainly is. The contrary notion springs from the effort to think money-value as absolute and intrinsic, instead of relative. Here, just as in the other cases, by the only test which can be applied, that of values

¹ See the Address of Professor Foxwell, of Cambridge, before the British Association, September 7, 1887. It is worth our notice in passing that the orthodox *theory* of money, as merely a counter, or, changing the trope, as nothing but a lubricant for the wheels of exchange, is untrue and misleading so far as rise and fall in money values prevail. And within the practical realm, mere inequity between man and man is far from the only evil to be deprecated from shifting money values. Over-taxation or under-taxation, as the case may be, confusion in all fixed charges, salaries, fees, and the like, should also be considered. If money has increased in value the payment of any nominal sum is really an over payment, and *vice versa*. The life of the greenback movement resides in a perception of these inequities and a natural desire to cure them.

in general, money has gone astray. It is vain to say that the goods have shrunk but the yard-stick remained fixed. Right in the very fact of its remaining fixed lies its vice ; since its sole seal and credential as a just scale proceeded from its relation to general commodity. Change in that relation is one, indivisible, indefensible fact, whether originating in the money term of the equation or in the commodity term.

There is a curious confusion of cause and effect upon this point, which identifies fall of prices with cheapening of commodities. Dr. Barth, editor of the *Berlin Nation*, had in his journal a year or two since, an article entitled "The Decline in Prices An Advance in Civilization," wherein he set forth such decline, not as a *sign* of economic advance, which, under the world's present monetary system, it is, but as itself an element in such advance, which it is not. Hon. David A. Wells falls into the same error in his sixth article on Recent Economic Disturbances.¹ That manufactured and some other commodities have for years been decreasing in intrinsic cost, is a great blessing. But it was not necessary that their money prices should fall, and this fall has been no less an evil for being occasioned by a phenomenon in itself a good.

There are very many, of course, who know perfectly the nature of the evil attending the value-fluctuations of money, but it is certain that none who have not made the subject a study at all adequately conceive the magnitude of the evil. Chevalier, Cobden, and Jevons gave the matter some attention, as it related to the sinking value of money between 1850

¹*Popular Science Monthly*, July, 1887, to January, 1888.

and 1870; and Alison has dwelt upon the effects of the reverse process subsequent to 1820. President F. A. Walker also devotes to the topic some pertinent remarks. But I doubt if even these writers, strong as their language often is in deploring the friction and wreckage which they describe, have felt the whole truth.

Jevons, at any rate, is too moderate. After enormous admissions touching its ravages, he almost apologizes for the change in money value, on the ground that the sorrows springing from it are mostly occult, and that the people habitually refer them to other causes. The question is not whether the infelicities accompanying these monetary vicissitudes are appreciated or not, but whether they are real and serious. That they are both will be the conviction of every student in proportion to his acquaintance with them.

The terrors of a rickety price-system brought us by our war, impressed us too little; or rather we idly dreamed that the mischief departed with the restoration of specie. But the change in this respect which came with specie was only in degree. Specie payments are by no means certain to be equity payments.

Our national debt on September 1, 1865, was about two and three-quarter billions. It could then have been paid off with eighteen million bales of cotton or twenty-five million tons of bar iron. When it had been reduced to a billion and a quarter, thirty million bales of cotton, or thirty-two million tons of iron would have been required to pay it. In other words, while a nominal shrinkage of about fifty-five per cent had taken place in the debt, it had, as measured in either of these two world-staples, actually been enlarged by some fifty per cent.

Between 1780 and 1884 the debt of the United States decreased not very far from three-quarters of a billion dollars. Yet if we take beef, corn, wheat, oats, pork, coal, cotton and bar iron together as the standard—assuredly not a bad one—the debt not only did not decrease at all but actually increased, by not less than fifty per cent.

Robertson, in *The Westminster Review* for October, 1880, computes that the British national debt, at seven hundred and seventy-five million pounds sterling, was, in 1880, represented by a volume of staples which, in 1873 or '74, would probably have cost eight hundred and ninety million; so that the fall in prices between 1874 and 1880 effected a gratuitous distribution among consol-holders of about one hundred and fifteen million sterling, at the expense of the tax-paying public.

He says: "The whole amount of the British government's expenditure in the financial year 1878-'9, being eighty-five million pounds sterling, represented a purchasing power of at least twelve million sterling more than the same amount of money would have done in 1873-'4, when the total expenditure was seventy-seven million; so that between 1873-'4 and 1877-'8, the burden of taxation in the United Kingdom increased by a purchasing power of 20.7 million pounds sterling, though the nominal increase was but eight millions."

According to the British Commission of 1886 on the Depression of Trade, "the aggregate of our [British] foreign trade in the year 1883, if valued at the prices of ten years previously, would have amounted to £861,000,000 instead of £667,000,000," the actual figure.

"A prudent trader usually considers it safe to trade considerably beyond his floating capital, and to borrow, say fifty per cent on the security of his plant or fixed capital. Now the constant decline of prices the last few years has virtually swept away his own portion of the capital and only left him enough to pay the loans and mortgages; for instance, a ship or a factory built at a cost of £20,000, of which £10,000 was borrowed, is now worth only £12,000, or 40 per cent. less, and so the mortgage now represents five-sixths of the value instead of half, the trader's interest having sunk to £2,000 in place of £10,000; probably, if trade is unprofitable, he fails to pay the interest, the mortgage is foreclosed, the property is forced off at just sufficient to cover the loan, and he is ruined. I have no doubt that this process exactly describes the condition of vast numbers of the traders of this country and of other countries having a gold standard. A great portion of the commercial capital of this country has silently passed into the hands of the mortgagees and bondholders who have neither 'toiled nor spun;' the discouragement this state of things produces is intense; after it has gone on for several years a kind of hopelessness oppresses the commercial community, all enterprise comes to a standstill, many works are closed, labor is thrown out of employment, and great distress is felt both among laborers and the humbler middle classes. * * * * *

It is a foolish reply to this that the aggregate wealth of the nation is not changed because it is only a transfer from one class to another; one might as well say that the craft of the pickpocket or cardsharp is innocuous because it only transfers wealth from one pocket to another. The prosperity of the nation depends upon the just distribution of wealth and the security of industry; nothing affects it more vitally than unjust alienation."¹

¹Samuel Smith, M. P., to Royal Commission [1886] on Depression of Trade and Industry, Appendix C, to Third Report, pp. 429 seq. Compare Frewen, *Nineteenth Century*, Oct., 1885, p. 603. "The real unearned increment is the amount of the difference, ever augmenting, between a diminishing cost of production and the increasing purchasing power of gold, and the one class of the nation which in securing this profit has grown rich, is that class the most idle in private life or the most dishonest and mischievous in politics—those who enjoy without working at the expense of those who work without enjoying. It is indeed hard to decide whether the impoverishment of labor or the premium offered to idleness is the worse accompaniment of a contracted currency." See further on this evil, Schoenberg, *Handbuch der Pol. Oek.*, 2d ed., vol. i. p. 349, foot; *Economist*, Mar. 23, 1889, p. 361, and Wasserab, *Preise und Krisen* [Stuttgart, 1889].

These unhappy fluctuations in its value have been occurring so far back as we have any clear history of money. In Greece, between Solon and Demosthenes, owing to its increase, money seems to have lost at least eighty per cent. of its value, or in other words, prices to have risen four hundred per cent.¹ Nearly as great was the fall of money values at Rome between the Punic wars and the time of Augustus.

Very early in the history of the Empire a contrary movement began. Prices fell: the value of money increased. I, for one, am convinced that the slow contraction of money was among the most potent causes of the dissolution of Rome. The product of the mines fell off, ceasing by 476, and the influx of precious metal from remote parts ended along with conquest, the stock in the form of wares and trinkets being at the same time too small to spare much for coinage. A vast amount of coin was exported for luxuries. Paper money was unknown. Coin was hoarded, not only as the most imperishable form which wealth could take, but because of its silent, continual increment in worth, making rich without toil those fortunate enough to possess it. Jacob estimates that from the year 14 to the year 490, A. D., the gold and silver money in the Roman Empire decreased from 322,200,000 pounds sterling to 87,-

¹Boeckh's estimate. At the time of Solon, according to Plutarch, wheat cost, per hectoliter, only 37 cents; an ox, 92 cents; a sheep, 18½ cents. Solon debased the currency 25, more exactly, 27 per cent. Many may regard this a new proof of his wisdom. Prices rose and doubtless "business was good" in consequence. Levasseur well remarks that manufactured articles must have been then relatively less cheap than these figures might imply. In Demosthenes's time wheat brought \$1.83 a hectoliter; an ox from \$15 to \$18; a sheen from \$1.80 to \$3.60.

033,000, a difference of 235,167,000. The lowering of prices and the rise of money-values must have borne, so slight then the bulk of the world's money, a very close proportion to this diminution in the stock of precious metal.

Neither in classic nor in mediaeval times had the world anything like the amount of money now in existence. Mines were few, confined to Western Asia, North Africa, and Europe. Much of the treasure which did exist was locked up in the vaults of kings and bankers, or hoarded by private persons, so as to influence prices little. At the same time, the volume of trade was of course as nothing compared with its modern development.

A good point of departure for this part of our study¹ is the period of the Flavian emperors, when the Roman world, most of the time at peace, had become as thoroughly unified as it ever was. Between 100 and 160, A. D., so far as we can measure, the purchasing power of money was not greatly different from what it is at present. Between Marcus Aurelius and Diocletian, say from 180 to 290, prices rose. They nearly doubled, in fact. We know this from a famous decree of the Emperor Diocletian,² wherein he severely upbraids the tradesmen for having advanced rates, and fixes by law the maximum prices at which the main commodities of life may be sold.

The cause of this great change was not that money had become more plentiful. It had not. The trouble was that trade had fallen off, owing to wars,

¹ Which follows in the main, Jacob, *History of the Precious Metals*, and Levasseur, *De la Valeur des monnaies romaines*, and *La Question d' Or*.

² Mommsen has an able monograph on this interesting law, in *Verhandlungen der k. sächsischen Gesellschaft der Wissenschaften*, 1851.

over-taxation, bad government, and the other misfortunes of the Empire. In consequence, Diocletian's edict went for nothing. Prices remained high.

A hundred years further on, toward 400, A. D., we find them 40 or 50 per cent. lower again. The barbarian invasions had begun. Mines were shut up and money hoarded. The better to preserve precious metal, much was made into vases, ornaments and trinkets. A golden vase which King Chilperic caused to be made, "to adorn and illustrate the nation of the Franks," weighed $16\frac{1}{2}$ kilograms, equal to about \$9,869. Gold and silver were between 400 and 800 A. D., the rarest they have ever been in historic times. Between Trajan and Charles the Great, prices had fallen in nearly the ratio of five to one, and the purchase-power of money had increased 400 per cent. The main cause of this tremendous change was decrease in the volume of money metal used in trade. The diminution continued until the days of Charles the Great, in whose age, according to Jacob's guess, the stock of gold and silver in Europe outside Constantinople was not greater than thirty-five or thirty-six million sterling. Prices fell, to keep pace.¹

In 796 the stock of money among the Franks was increased by booty taken from the Avars, and it is said that in consequence of this importation prices had, by 806, risen $33\frac{1}{3}$ per cent. This does not prove that the accession was vast: the change was due rather to the slender sum which the Franks possessed before. In the days of Charles the Great, as we know from a grant which in 786 he made to his sons of certain mining lands, with the right of exploiting them for "gold, silver, and all metals," mining was

Jacob, *History of the Precious Metals*, vol. i, chaps. x-xii.

again begun, but not enough metal was extracted essentially to change prices till toward 1300, when the crusading period ended. The mines of Chemnitz and Kremnitz (in Hungary) were first worked. In the tenth century, those of the Harz Mountains were opened and put to service by Emperor Otho the Great. The extraction was stopped by a famine in 1006, begun again in 1016, interrupted afresh in 1186, but regularly pursued 144 years from 1209 to 1353. Then there was pause for a century, but in 1453 work was once more begun and has continued ever since. The Harz output, nearly all silver, was Europe's main dependence in the full middle age. In the thirteenth and fourteenth centuries other important mines began to add their stock. Schneeberg, Saxony, produced in silver \$1,500,000 a year; Brixen, in Tyrol, \$250,000; Siderocapso, in Macedonia, \$36,000. There were also productive mines at Joachimsthal, Bohemia, at Altenberg and Schellgadin, in the Nor-ican Alps, in Facejaber, Hungary, and in Spain, Sweden, and Norway.

During the centuries last named the production of money-metal was sufficient not only to maintain prices but to raise them. Levasseur gives as the price of a hectoliter of wheat, in fine silver:

In 1202,	16.73	grams,	=	about	\$0.67 ¹
1256,	13.98	"	=	"	0.56
1294,	25.38	"	=	"	1.02
1314,	32.36	"	=	"	1.30
1322,	35.44	"	=	"	1.42

The volume of trade had been increasing very rapidly, but that of money had more than kept pace. To secure a given amount of goods required in the

¹Reckoning the gram roughly at 4 cts. The fine silver in our silver dollar, 371.25 grains, is 24.057 grams.

fourteenth century nearly three times as much money as in the eighth. But before 1500 a change came. Though all the mines known in Europe were open, commerce had, in consequence of the crusades, become expanded out of proportion to the money circulation, and prices fell. Wheat cost, per hectoliter, in fine silver,

In 1328,	21.89 grams.	In 1477,	11.73 grams.
1347,	23.10 “	1492,	9.54 “
1360,	11.96 “	1508,	10.70 “
1375,	16.64 “	1510,	5.26 “
1406,	16.87 “	1511,	7.29 “
1459,	14.42 “	1512,	9.10 “

These were lower prices than in Merovinigian times, for then the hectoliter of wheat never went lower than 12.37 grams, though no mines were wrought, and much gold and silver had been withdrawn from circulation. Wages did not at this period go down as wheat did. The lowest price of wheat, 5.26 grams of fine silver, would be about 25 cents a hectoliter. About 1500, the hand-workers on the castles of Gaillon got a bit less than 2 grams of fine silver a day, or about 8 cents. Wages had earlier been far lower than this.

If, with Levasseur, we regard the value of money to-day as 1, then its value in the age of the Antonines, 130-160, will also be about 1; in Diocletian's time, 0.8 will be the figure; in the fourth century, 13; at the worst period of the barbarian invasions, 7.6; in 796, after the Avar war, for a brief time, 5.8; at 1200, 5.7; at 1300 3.9; at 1400, 3; at 1350, 4; at 1400, 5.7; at 1450, 6.6; at 1500, 9.9; an instant about 1510, 12, which was the highest. A given amount of money would buy then twelve times as much in general commodities as at the present time.

America was discovered in 1492. The year 1519 saw Cortez in Mexico. Pizarro landed in Peru in 1527, and six years later had subdued the Inca empire. Gold and silver began to pour into Spain from the New World. Charles V. closed the Spanish mines to force the miners to America as superintendents of the work there. We do not know how much precious metal was secured. The gold seized in Mexico has been valued at 1,125 kilograms, the ransom of Atahualpa at 5,911 kilograms, and the plunder seized at Cuzco the same. It is safe to say that the first century of American mining multiplied Europe's precious metal nearly or quite five-fold, carrying up prices in much the same proportion.¹ Both consequences became less marked as the quantity of money metal swelled, on the well-known principle that changes in the value of the monetary unit are in vigor and extent inversely as the monetary mass. The piling up of metal went on, and the general though irregular tendency of prices was upward, till the beginning of the present century. Then began a change, and from 1809 falling prices or increase in the value of money prevailed till 1850, after which prices rose again till 1868 or '70, when they once more began to fall.

Upon the results of early American mining, I cannot do better than to place before the reader Newmarch's critical summary of Jacob :

"1. Until the year 1521 the annual additions made to the previously existing quantities of gold and silver in Europe (and say Africa), those additions being chiefly *gold*, were not of a magnitude to produce great or sudden effects.

¹Bodin, *Discours sur le Rehaussement et D minution des Monnoyes*, etc., 1578, says that during the Valois Dynasty in France prices increased twenty fold; *e. g.*, the cost of a sheep or a calf went from *sous* to *livres*. See *Eng. Hist. Rev.*, I, 272. Cf. on this, Jacob, I, 250.

"2. From 1521 to 1545, the disturbance of the previous state of things began to be felt in consequence of the large annual supplies, chiefly of silver, obtained in Peru and Mexico.

"3. This disturbance was greatly increased between 1546 and 1577, by the large supplies of silver readily obtained from the Potosi mine, and by the increase of the supplies of gold and silver from other parts of America.

"4. The discovery, about 1571, of an abundant supply of quick-silver, and its efficacious application to the process of silver mining, does not appear to have done more than counteract, to a greater or smaller extent, the increasing cost of obtaining the precious metals, more particularly silver, in consequence of the comparative exhaustion of the sources of supply.

"5. Adopting the general supposition of the cessation, about 1640, of the decline in the value of the precious metals as compared with commodities, it would appear that that cessation took place at a point (1) when the amount of gold and silver coin (in Europe and America), say £160,000,000 sterling, was probably equal to no more than *one-third* of the amount to which it had attained in the eighteenth century; and (2), when the quantity of gold and silver in the form of articles of use and adornment, say £60,000,000, was probably equal to no more than one-fifth of the quantity so existing during the second half of the eighteenth century.

"6. After the same culminating date of 1640, the average annual supplies of gold and silver reached, and maintained for a century, a magnitude certainly twice as much as the average annual supply existing in the year 1640.

"7. As a consequence of these premises it would appear that subsequent to, say 1640, the operation among others, of four principal causes, viz.: (1) the export of gold and silver, but chiefly silver, to India and the East, in payment for Asiatic products; (2) the consumption of gold and silver for purposes of use and ornament; (3) the increase of population and production, and extension of commercial intercourse into new regions requiring a constantly increasing supply of coin to maintain the former level of prices; and (4) the annual loss by abrasion and casualties on the large quantity of gold and silver in use—were sufficiently powerful to maintain such an exact equilibrium between the average annual supply of and the average annual demand for the precious metals as to counteract any tendency to a fall in their value as compared with commodities."¹

I by no means allege that the rise and fall of money-value have exactly kept pace with the scarcity

¹Tooke & Newmarch's *History of Prices*, vol. vi, pp. 369 seq.

and abundance of precious metal. The parallelism has resembled more that between the tides and the motion of the moon. And the ebb and flow of value have confessedly been less marked since the aggregate of money material on earth has grown so immense. Yet it is safe to say that no considerable permanent change in the world's yearly output of gold and silver has ever yet failed to produce an answering change in the power of money over goods. In a word, vexations in kind entirely like those which rising and falling prices have been occasioning in our day, have dogged men ever since money was invented. In degree, of course, the universal introduction of credit immensely aggravates the trouble. Money has been a great good in the world, but here, as in all other things, bane has mixed with the blessing.

Is this plague necessary? Must it be perpetual? Is the commercial world, the entire money-using world, to be forever tormented with this accursed up and down in the purchasing power of money?

The general thought evidently is that the curse is inevitable, something forced upon us by the very nature of things, to be borne as patiently as may be, but gotten rid of never.

There is, indeed, an indefinite theory to the effect that the disturbances in question will, with lapse of time, become innocuous of themselves. Mr. Jevons seems to have been of this view. He often recurs to the well-known principle that, as the mass of money-material rises, the value-constancy of its unit waxes more staunch. This is important, and, so far as the proximate future is concerned, may afford hope. It is possible, that is, for gold production so

to increase as to enable the increment, added to a mass so vast already, to keep prices at their present level for a considerable time to come. Such a result, even temporarily, is extremely improbable. It would require rich diggings like Bendigo, Ballaarat and Forest Creek to reappear, Sutter's flume to be opened again. Placers like these perhaps await the spade in Africa, Alaska or Eastern Siberia, though nowhere in the old gold-fields. It were rash, to say the least, to reason from such a contingency, while all that we certainly know of the gold outlook indicates that the mining of this metal must hereafter be increasingly difficult, irregular and costly.¹

But should we even see the gold output of 1849-'69 duplicated, we should have no right to expect permanent steadfastness in money value. Gold is produced under the law of diminishing return, and hence must in the long future grow more and more scarce, its cost of production greater and greater, while most of the commodities trafficked in by means of money are not under this law, are to grow cheaper and cheaper forever, and almost none are so completely in the clutch of the law as gold is. Manufactured goods, an increasing proportion of all, already much more than half, are only very remotely affected by the law of diminishing return, and will go on cheapening to all time.

This analysis has behind it not theory alone. History shows that the tendency of money, if left to itself, is to gain in value. Gain has been its habit through many more centuries than fall. The fall spoken of at Athens and Rome proceeded from special

¹See *infra*, note on the views of eminent geologists and metallurgists.

causes, and we perfectly well know that it was not ecumenical even at those epochs. The great centres had money in plenty; elsewhere it was correspondingly scarce and precious.¹

How striking is this tendency of money to rise in value, right in our own country, despite the vast mass of money metal which has been mined! Money grew precious [prices fell] unsteadily yet surely, all the way from 1809 to 1850, in spite of the relatively enormous increase of those years in the world's store of gold and silver: \$135,798,000 in gold, \$79,480,700 in silver, \$215,278,700 in both.

From 1851 to 1875, the increase being \$3,317,625,000 in gold and \$1,395,125,000 in silver, or \$4,712,750,000 in both, was tremendous enough to raise prices and cheapen monetary units everywhere; yet in 1873, partly by relative deficit of gold, but mainly by the demonetizing of silver, the law of falling prices, of enrichment to the dollar, reasserted itself, and the effect has continued since.

Besides, whether gold is dear or cheap, the advance of wealth is sure to convert an increasing proportion of the annual yield into wares, which, embodying large labor, will from the moment of their manufacture, pass out of the category of potential coin, henceforth not only exerting no steady influence on the value of money, but even, as so much additional merchandise, making more money necessary.²

¹ Montesquieu, *Grandeur et Decadence des Romains*, ch. xvii. Von Sybel, *Kleine Hist. Schriften*, I, 6.

² Work on gold and silver wares often doubles, trebles and quadruples their value by weight. For the wear of Coin, Jacob, ch. xxii. Soetbeer thinks that one-third of the gold and one-quarter of the silver yearly produced is used up in wares and trinkets. *Vierteljahrssch., für Volkswirtsch.*, etc., XXIII, 1, 111.

It is frequently urged, in reply to considerations like these, that the need for metal money is growing less and less, because of the many money-surrogates coming into use, and the need for money or its surrogates lessening because of the numerous substitutes for money more and more usual each year. Telephone, telegraph and bank check transfer enormous values every day, without the slightest intervention of money, whether metal or paper; and of the work for which money is requisite still, paper at present performs an immense share, as well as coin could, and even better.

Any abridgement to the need of money would tend, of course, to lessen the value of money, to bring down its value *pari passu* with that of commodities. But I for my part am unable to see any prospect of a lessened need for money in the future. I find no evidence of any natural, commercial or social causes which are going to reverse the great historic and economic law of falling prices. Let us look at this point with care.

The facts touching new modes of exchange are important, but their bearing on the problem before us is weaker than has often been supposed.

Clearings have for many years, both absolutely and still more relatively to the growth of business and commerce, been vastly falling off in England,¹ and in this country as well. Never since 1882 has the New York Clearing House cleared in an autumn week a sum reaching the billion figure, which was a regular thing that year. In 1886 and 1887 the amount ranged between \$500,000,000, and \$700,000,000.

¹See *Quar. Jour. Economics*, vol. ii, p. 67. See for a full table of the shortages, *Economist*, Jan. 5, 1889, p. 9.

It is somewhat deceptive to enumerate both telegrams and checks, because telegraph and telephone mostly do the work which the slower check would at any rate do, though they of course effect more or less exchange in the aggregate which but for them would not occur. So, too, it is misleading to allow in this analysis for *all* the paper money in the world; since after paper has expelled metal in any land, additions to its volume affect world prices no more.

Quasi-money and substitutes for money aid toward cheapening commodities, by rendering less necessary those large stocks of goods, wholesale or retail, which were once indispensable. But, as we have seen, this cheapening, though in itself an advantage, is indirectly among the worst disturbers of monetary peace, ever helping on that increase in the command of money over goods which is the source of so much woe to the industrial world. Wares, being cheaper, are multiplied, exchange among them tending to demand as much money as when they were fewer and dearer, so that their fall in value, not inducing any fall in money value, continually upsets the par between given amounts of them and given amounts of money. In so far, therefore, as the devices named cheapen goods, while they lessen the money need in the first instance, their secondary influence is to increase this.

I beg the reader to return here again for a moment to the question: What is the world's, or a single country's, monetary need? If we were instituting a money system *ab initio*, the main problem would be, what amount of money will "go round?" how much will do all needed money work? no further care being required as to the volume, except that its

size be such as to prevent inconveniently small coins on the one hand, and inconveniently bulky ones on the other.

But when a money system is already in use, another question, equally weighty or more so, must be asked, viz: whether or not the supply is bounteous and well regulated enough to render the unit steady in value. Satisfiable or unsatisfiable, a requirement of the money system to-day is such regulation as may preserve the purchasing power of the unit of value permanently identical with itself.

Neglect of this point quite vitiates for the purposes for which they were intended, a number of able recent discussions. Thus Dr. Franz Kral, who would no doubt admit as a separate proposition the necessity of permanence in the value of money, in his *Geldwert und Preisbewegung im Deutschen Reiche*, 1871-1884, argues that, *although prices have fallen*, the money supply for the years reviewed by him exceeded the need.¹ The late Professor Neumann-Spallart wrote the introduction to Kral's book and concurred in its views. As little does J. L. Laughlin, in the *Quarterly Journal of Economics*, vol. i, prove the sufficient plentifulness of money in showing so interestingly, that the chief gold reserves of Europe and America were much larger in 1885 than in 1870-'74, that they also bore at the latter date a much larger proportion to the whole note circulation than at the former, and that high rates of discount were more frequent from 1855-'73 than since 1873. Mr. George F. Becker, United States Geologist, in his excellent notes on the

¹He concedes, however, that monetary need increases more rapidly than population. *Viertelj. f. Volksw.* XXIV, iii, 201 seq.

Relative Value and Production of the Precious Metals, in United States Consular Report No. 87,¹ is another who fails to see that the abundance of money in banks is by no means a guaranty that the social requirement for money is adequately supplied.²

To resume, while these substitutes for money have been multiplying in certain directions, others have been withdrawn. The truck system of paying factory help is dying out. Twenty years ago in all our rural communities pure barter transactions were very numerous and covered extensive values. Now money is mostly used instead. Money has mainly supplanted also the quasi-barter so common among our fathers, in the form of book accounts between neighbors, in which money-denominations were employed, though no money except to settle the balance, perhaps once a year.

More significant is that increase in the division of labor, by which many important products, like wagons, harnesses, shoes and clothing, whose manufacture used to begin and end under the same roof, are now gotten up by a dozen, more or less, different establishments. The wagon-maker buys his wheels of one man, his bodies of another, his tops of another. Nearly all country shoemakers, for new work, purchase the uppers ready-made and the soles all cut,

¹December, 1887, pp. 424 seq.

²See at the beginning of this article. The automatic power of money to keep its value unchanged is by no means as great as most of the books represent. There is, for instance, no tendency in either dear money [low prices] or cheap money [high prices] to cure itself by mere alteration in the exchange power of a given amount of the money. Dear money, working as a brake on circulation, tends to grow dearer still, as cheap money, accelerating circulation, grows ever cheaper. If these tendencies are reversed or overcome, it must be by extraneous causes.

from some city firm. Blacksmiths no longer make their nails, rarely even point them, and almost never think of forging a shoe or a bolt. All these things they purchase. The man who builds your house buys the doors, the shutters, the sash, the window-frames and the brackets from different parties, ready-made, as he of course does the metal finishings. The casings come to him all grooved, chamfered and ornamented, requiring only to be sawn and nailed. This breaking up of the trades is a momentous industrial phenomenon, not yet fully enough noticed, and a very great part of the new exchange work which it entails has to be done by means of money.

The progress of civilization everywhere must multiply exchanges, for men will never have equality of relative advantage, either in their endowments or in their environments, and the struggle for existence will force them to employ to the utmost the help which exchange affords. In Asia, Africa and South America it will call for infinite heaps of money, and it is to be remembered that this civilization will have to advance far before it can employ substitutes for money to any extent. Next to the English the Spanish race is foremost in these new lands, a race showing no more facility than the French in the use of banking institutions.

Vast tracts of our own country yet remain, and will for a long time, in this relatively undeveloped condition. The United States as a whole is far more like France in respect to monetary need than like England. Great Britain is supposed to have a sum of metallic money equal to twenty per cent. of the amount of her commerce. For the United States the figure is fifty-eight per cent., for France eighty-five

per cent.¹ Two years ago I found a man who had for a decade owned and carried on the chief store in a flourishing New England village, ignorant how to draw a check. If this in the East, how slight must be the play of banking methods in the West and South. The gross *per capita* mode of estimating monetary need is fallacious, and I never appeal to it, but it is far more applicable in this country than in England.²

The *per capita* capital, surplus, undivided profits and individual deposits in banking institutions of all kinds was, on January 1, 1887, for the entire United States, \$76.19. For Rhode Island, the highest figure, it was \$304.83; for Massachusetts, next highest, \$297.86; for New York, third highest, \$251.08. For Mississippi it was but \$3.23—the lowest; for Arkansas, \$4.20; for North Carolina, \$5.45; for South Carolina, \$9.61.

For the Eastern and Middle States together, the sum was \$161.62; for the Southern States, including Tennessee and Kentucky, which are exceptionally well off in banking capital, it was \$11.52. For the Western States it was \$60.33; or omitting California, as peculiarly strong, \$50.59. For the Territories it was \$70.02; or, leaving out Montana and Wyoming, which were far beyond the average, \$35.03.

Of the national banks alone the distribution is much the same. October 5, 1887, the New England States had 566 of them, with a circulation of 55½ million; New York, New Jersey and Pennsylvania, 706, with a circulation of over 50 million; Delaware, Maryland, the District of Columbia and the two Vir-

¹For Germany it is thirty-four per cent.

²Cf. *ante*, the reference to Kral. See also Supplementary Note.

ginias, only 118, with a circulation of \$7,159,830; the remaining Southern States only 313, circulation \$12,219,830. Passing to the Western States, we find Ohio, Indiana, Illinois, Michigan and Wisconsin possessing 651, with $26\frac{1}{2}$ million in circulation; Iowa, Minnesota, Missouri, Kansas and Nebraska, 478, circulation \$10,110,993. But in the extreme West, again, Colorado, Nevada, California, Oregon and Arizona had but 90 banks, circulating \$3,101,990, and the remaining territories, only 127, circulating \$2,431,450. Had we duly weighed such considerations as these, we should have been less surprised at the quantities of silver and silver surrogates which this country has absorbed since 1878, without ever driving gold to a premium.¹

I beg attention to another weighty consideration. The assumption which so many economists and others have taken up from Bruno Hildebrand, of three great periods in the world's economic evolution, viz., barter, money, and credit, as if credit were to have its fullest development in the most perfect economic state, is now seen to be false. With nations as with individuals, those best able to get credit, use it least. In all the wealthiest countries the proportion of cash payments to total volume of trade is steadily increasing. According to Rae,² from 70 to 90 per cent. of the world's business is done on credit. In Germany, Siam, and Canada the proportion is 90

¹The experience of Holland since 1873, is instructive in the same direction. See the paper of Professor Greven, of Leiden, before the Econ. Sec. of the Brit. Association, at Manchester, Sept. 7, 1887, printed as Appendix B, to U. S. Consular Rep. No. 87, Dec. 1887.

²The Nat. Hist. of Credit, *Contemp. Rev.*, vol. 50, (1886), pp. 252, seq. Rae's generalizations are based on the U. S. Consular Reports contained in the issue No. 43, July, 1884.

per cent.; in Belgium and China, 80. Credit traffic has its feeblest development in Holland; its strongest in Turkey and Yucatan. With progress in economic organization, the sphere of credit becomes less extensive, its operation more intensive and useful. Cash payments, getting the mastery first in wages, in retail trade and in raw products, spread gradually over other fields, shutting up credit to its most helpful and least dangerous functions. People are everywhere "more and more replacing book credit by bills, long credit by short, mercantile credits by banking credits, and banking credits themselves they are making more widely effective and available by specializing the organization of financial institutions to particular branches of industry."¹

Writers of another class, a very large one, expect all necessary, or all attainable, fixity of general prices to come from international bimetallism. I have no doubt that this scheme would be for a long time of extraordinary service if it could only be carried into effect. Silver appears to be a much more trustworthy measure of value than gold, and the two together, if they could, as I believe intrinsically possible,² be

¹Ibid, p. 255.

²Nicholson, *Money and Monetary Problems*, 290, well redargues this from the figures. In 1884, the civilized nations had about \$3,270,000,000 in gold money, and about \$2,185,000,000 in silver money. There have been added each year since, in gold, \$95,000,000, in silver, \$120,000,000, or less. Net yearly consumption of GOLD in the arts (90,000 kilog. at \$690 a kilog.), \$62,100,000. About 30,000 kilog. gold go to East yearly—about \$20,000,000. Total consumption of gold for purposes other than money, in the West, is about \$82,500,000, leaving for money or hoarding, in the West, \$15,000,000 only. Of SILVER, 515,000 kilog. are used in the arts (at \$45 a kilog. at 15½ ratio)—\$23,175,000. The net flow to East, 1,603,000 kilog.—\$72,135,000. Total consumption of silver other than money, in the

made to circulate concurrently at a fixed ratio in all the main commercial countries, would furnish a more stable gauge of value than even silver could, alone.

The chief trouble is that we have, I fear, no hope whatever of an international alliance requiring re-coining on so vast a scale. Great Britain is in the way, and, I believe, would not budge were we even to cease coining silver, and were this to force rupee

Western nations, is about \$95,000,000, leaving about \$35,000,000 for coins and hoards.

Now suppose international bimetallism at $15\frac{1}{2}$, and suppose also a rise in gold. No gold goes to the mint, and gold coins are melted into wares. This can not upset the system till practically *all* gold is driven out: *i. e.*, over three billion dollars. Every step of this way, gold becomes cheaper, and silver dearer. We have but \$35,000,000 silver, disposable for money, any way; and nothing can make the sum very much greater; while \$15,000,000 will be needed to fill the gap in coinage arising from the fact that no gold is coined. So, really, there are only \$20,000,000 available to drive out the more than three billion dollars gold money. Fifteen million dollars more gold yearly will be in the market for the arts and the East from non-coinage; and twenty million dollars driven out--in all, thirty-five million dollars over the usual $82\frac{1}{2}$ million so used. If we suppose that, for any reason, *more* silver is available for money, so much *more* gold is added to the stock in the market. How, under these circumstances, could international bimetallism fail, unless by treachery? Further, writers who deny that international consensus could cause the two metals to float concurrently at a given legal value-ratio, overlook too much the little effect which their relative production has always had on their relative values. Becker has splendidly shown this in his Notes to Atkinson's United States Consular Report, No. 87, December, 1887. He writes out the figures and then presents their truth graphically, in two curves. In the 16th century, two values of gold to one of silver were produced at the beginning, three of silver to one of gold at the end; yet the value-ratio between the metals altered only from 11:1 to 12:1. For nearly half of the present century, three values of silver were mined to one of gold; after 1848 just the reverse; yet till 1873 the ratio varied so little that both metals were about every year brought to the French mint, where the relation of $15\frac{1}{2}$:1 was observed unchanged.

exchange to a sixpence. And if the project were launched, there would certainly be some risk of misunderstanding and friction attending its administration, as has occurred in the history of the Latin Union.

Further upon this subject, I call attention to a point which the bimetallists do not enough heed: that the reason which pressed the hardest twenty years ago for advocating bimetallism, whether national or international, has at length, as a whole, been removed by simple lapse of time. The bulk of this nation's and of the world's outstanding indebtedness, private and public together, must, by 1889, have ceased to be on the basis of the high prices antecedent to 1873, and would be much more equitably adjusted according to the low prices now ruling. The fall of prices since 1873 has been a terrible calamity, but it has occurred in spite of us, and here we are. The evil, as a whole, a general rise of prices would not correct, but only repeat. We have struck a new base line of prices; let us plant ourselves upon it, and see to it that we are not forced to change again, whether up or down.

If the rehabilitation of silver as full legal tender would fully and finally keep change of prices from recurring, I would advocate it in spite of its immediate injustice. But it certainly would not. The relief would be partial and temporary. We should never be certain that maximum and minimum total production of metal would synchronize respectively

¹The case is aggravated by the resolution of Roumania, hitherto on the basis of the Latin Union, but now, according to the *Economist* for March 30, 1889, about to abolish bimetallism. It will stock up with gold by selling thirty million five-franc pieces of silver, making up the difference by a loan.

with maximum and minimum need, while we should be certain that in the long run production must fall behind need.¹

Are we then to despair of stability in general prices? I believe not. I am impressed with the practicability of preserving prices permanently at whatever level they have at any time assumed, by swelling or contracting the volume of money in circulation, on some such plan as has been outlined by Professor Walras, of Lausanne. The method would involve (1) the critical, official ascertainment of the course of prices; (2) the use of some form of subsidiary full legal tender money; and (3) the injection of a portion of this into circulation or the withdrawal of a portion therefrom, according as prices had fallen or risen.

¹So Mr. Giffen concedes, *Contemp. Rev.*, vol. xlvii, pp. 800 seq. Cf. Robertson, *Westm. Rev.*, Oct. 1880. Cf. also *Contemp. Rev.*, vol. 51, p. 359, note. More instructive than all these are the critical views of America's chief geologists and metallurgists, set forth in Consular Report No. 87, December, 1887. They nearly all agree with the well-known conclusions of Suess, in his *Zukunft des Goldes*. N. S. Shaler thinks that the output of both gold and silver must henceforth gradually decrease, and that "gold is more likely to become an article of increased cost within the coming half century than any other metal," though we are "liable to many sudden increments in the production thereof." J. D. Hague is of opinion that while gold may slightly increase in yearly supply, silver can hardly fail to go the other way. R. H. Richards concludes almost exactly with Shaler. J. S. Newberry utters, as the result of his long experience, the conviction that our production of both gold and silver has passed its maximum, and that in future we cannot expect a yield of more than perhaps one-half the greatest annual product of gold. Not only America's but "the world's stock of gold will gradually decline from the diminished supply, the increased consumption in the arts, the abrasion of coin, etc." The outlook, he thinks, is much the same for silver. G. F. Becker expresses the view, which interestingly complements the above, that the relation in amount, by

There is, of course, much labor and care involved in determining the course of prices; but the task can be accomplished, with all sufficient exactness, without excessive difficulty. Plans for a compound standard of value have been numerous.¹ The articles composing them, it is always and justly urged, must be staples, and must be the same in kind, quality and amount at all the successive listings. There are five conditions besides these, on which stress should be laid. One is that the commodities must be taken from each of the two great classes, those subject and those not subject to the law of diminishing return, as far as possible in the proportion which each bears to the total consumption. The second is that those articles must be chosen which are the least subject to accidental and artificial fluctuations, as by customs

weight, between the gold product and that of silver, is likely not to vary much in future from the figures [29.1 of silver to one of gold] at which it stood from 1493 to 1875. That is, we are as likely to find new abundance of gold as of silver. R. Pumpelly alone anticipates a considerable increase in the precious metals, more in gold than in silver. Not one of the authorities who speaks in this Report fears anything like a "deluge" of silver, though R. W. Raymond believes the silver product likely to increase. In addition to the above I would draw attention to the opinion expressed by R. H. Inglis Palgrave, in his memorandum printed as App. B. to the final Report of the [1886] British Commission on the Depression of Trade and Industry, that even now, spite of its wide demonetization, the employment of *silver for coinage purposes appears to exceed the net production*. Palgrave's memorandum is a most able and helpful document, comparable with Soetbeer's *Materialien*, so well translated by Taussig for the Consular Report referred to above in this note. It is indeed based on Soetbeer, but adds much that is valuable. Another translation of Soetbeer's *Materialien* [the same, 2d, edition] is to be found in the App. to the final Report of the late Royal Commission on the Recent Changes in the Relative Values of the Precious Metals.

¹See Jevons, *Money and the Mechanism of Exchange*, 327 seq.

regulations, peculiarity of seasons, weather, and the like. Thus Soetbeer is doubtless right in thinking prices in Hamburg, which till lately has been a wholly free market, somewhat more normal than those of London, even. The third is that the greater the number of staples the better, provided the just indicated requirements be adhered to. The fourth is that, as a rule, prices are to be registered in all the major markets of the country or countries whose prices are in question. In not a few cases, as wheat and standard silver, London prices would serve as well for other countries as for Great Britain. For many staples trustworthy price-records are now kept, as by the London *Economist*, and *Gazette*. For others, new or more accurate records would have to be instituted. The fifth special condition is that of quantity-coefficients,—an arrangement by which the figures for each commodity are made to enter into the grand total a number of times in proportion to the quantity of it consumed.

At intervals, now, whether directly or index-number wise, as may be found intrinsically the more correct as well as the less subject to mistakes of calculation, the entire price-list of the articles determined on is to be added up. The geometrical, the arithmetical, or the harmonic mean may be sought.¹ If

¹Upon the *minutiae* of the calculation I cannot here enter. The tables exhibited by Soetbeer and Palgrave, in their documents referred to in a preceding note, reveal that the different methods hitherto tried yield very similar results. On the various sorts of mean, see Coggshall, *Quar. Jour. of Economics*, vol. i, pp. 83 seq. Drobisch [ueber Mittelgrössen und die Anwendbarkeit derselben auf die Berechnung des Sinkens und Steigens des Geldwerths, in the *Berichte der königl. Sächsischen Gesellschaft der Wissenschaften* for 1871] was, I believe, the first to point out the importance of quantity-coefficients. Lehr, in his [1885] *Beiträge zur Statistik der Preise*, warns us that the

the amount at any addition is greater than at the last, general prices have risen: money has grown cheaper, has lost in purchasing power: too much of it is in circulation: some must be withdrawn.

If, on the contrary, the amount is less than at the last summation, prices have fallen: money has grown dearer, has gained in value: too little of it is in circulation, and more must be set free or coined, to redress the balance. In a word, inflate or contract, rarefy or condense, so as to keep the footing of your great price-list perpetually the same. The universally conceded equity of a composite value-standard would in this way be incorporated in the monetary system itself, and would spread to all the exchange transactions of the nation. The very knowledge of an existing purpose thus to regulate would do much to regulate.

Walras's project differs from this as follows: He would work *a priori*. He judges that the volume of commerce, the volume of money, and the relation between the two can all be so closely figured out and followed that threatened changes in general prices may be forecast and prevented. I would be less presumptuous, and apply the needed corrective in an *a posteriori* way, as I have indicated.

There is another point of some moment which Walras does not touch. It is the problem how a government would go to work to effect now the increase, now the depletion of the money in circulation. It could, manifestly, accomplish the increase

quantity-coefficient of any staple would change from period to period, rendering a calculation based upon one year's commerce an unjust test for the value of the money unit to prevail during the next. But if staples enough were taken, errors from this source would equate each other.

by the purchase of silver and the coining of it into tokens, securing its funds for the purchase as for other outlays. The tokens would take the form of certificates and find vent in ordinary government expenditure. But how recover these certificates should there come a rise in prices? The simplest way would be by selling call bonds redeemable in silver certificates, after which the replenishing process could at any time be set in play by simply calling more or fewer of those bonds.

This plan I venture to regard as superior to either of those suggested by Professor Marshall in the *Contemporary Review*, vol. li. Observing the practical inutility of any value-standard which is not incorporate in the monetary system, Marshall calls attention to the same possibility which I have been urging above, of making money itself to accord with such a standard. The result might be effected, he says, in this way. Have a pound sterling [or dollar] unit of value, made up according to your compound standard. Then, whenever the sovereign [or gold dollar] is worth more than this unit, let the proper authority buy consols [bonds] for currency, thus inflating the circulation. Whenever, on the contrary, the sovereign [or gold dollar] is of less value than the unit made up on the compound standard basis, consols [bonds] are to be sold for currency, so contracting the circulation. As expounded by its author, who takes care to say that he does not recommend it, this proposal (i) presupposes a permanent national debt, and (ii) seems to regard as sufficient to its end the value measure of the simple fashion so often described hitherto, composed of relatively few articles. These infelicities are, however, not inherent in it.

Another possibility offered to our consideration by the same brilliant economist involves worse defects. Having, as before, your pound sterling [or dollar] unit, based upon the composite standard, issue paper sovereigns [or dollars], redeemable each in one-half a unit's worth of gold bullion and one-half a unit's worth of silver bullion at the market value of those metals at the time. Now, while obviously the paper sovereign could never be less valuable than the unit, nothing is to hinder it from becoming more so if the paper is too scarce. Only careful watching and prompt action could prevent a fall in general prices from this special source. More serious, the plan would at best assure to prices only such regularity as the vicissitudes of mining might impart to the double metallic unit reserved for the payment of each note.

But the great difficulty with these plans is that, well as either might work temporarily, both lack the element of permanence. By either, if so employed as to sustain general prices for any considerable time, the proportion of uncovered paper to the total circulation could not but wax greater and greater with the passing decades and centuries, offering society less and less chance, through payments in hard money, of heading off or assuaging commercial panics.

A scheme of some such nature¹ as we have endeavored to expound, could it be carried out, would have merits beyond the regulation of prices. As one of its ulterior advantages, it might be so worked as to give final solution to the silver question, and this without the slightest jar, derangement or loss in any

¹For a somewhat similar one for India, Robertson, in *Westm. Rev.*, Oct., 1880.

quarter. Silver would not indeed, become again full money in any land where it has ceased to be such ; but it would be more and more restored to actual use, and would ultimately play a monetary role no less distinguished than international bimetallism would assign it. Gold would, in these countries, remain the sole complete money, the one metal open to free coinage ; silver would offer a system of full legal-tender tokens, as in the United States and the the Latin Union to-day, to be coined, not freely, but as found necessary by governments to maintain the level of prices. It would be represented in circulation by certificates. Gold monometallist countries would introduce such subsidiary or regulator-money, as it was seen to be required in order to keep prices from falling. Silver monometallist states developing so as to need the gold standard, would begin with gold coins bearing the bullion value-relation to silver, then limit their silver coinage, and also, if needed to assure currency to the gold, degrade the silver coins a few per cent. below their face value ; in other words, turn them into tokens.

After the scheme has been launched, if, at any time, gold should become, as it conceivably may, so abundant as alone to keep up prices, silver can be sold, and, as a last resort, even the coinage of gold be limited.

A much more probable imbroglio would be a rise in the value of silver, so that what had been tokens at 16 or $15\frac{1}{2}$ to 1, while still demanded to maintain prices, would cease to be tokens and even leave the circulation. For this the remedy, easy, cheap and efficacious, would be to degrade the silver coins into tokens again.

Another possibility, which deserves mention, though I consider it exceedingly remote, is that silver values may go the other way, may enormously fall by increase of the metal, so that the gap between the bullion value of the tokens and their face value shall open out into a gulf. This would certainly weaken the system for enduring a crisis, the metal-regulator (unless the tokens were enriched, which would be costly), losing so far forth its superiority over paper-regulator. But if I have reasoned well in the preceding paragraphs, silver, like gold, though more slowly, is destined in the long run to turn increasingly precious, so that the main difficulty in working the measure will not be the too great cheapness but the too great dearness of the tokens, necessitating, at long intervals, successive degradations.

The adoption of the monetary system which has thus been sketched, might also easily settle the question of future paper money. Were the silver required by the system, itself to be forced into circulation, this would furnish a portentous, perhaps a decisive, objection to the whole conception. But that is not involved. Certificates would do as well as discs; and these silver surrogates, along with as many gold ones as might be called for, would constitute a paper currency of perfectly ideal convenience and soundness.

Manifestly it need not invalidate the plan to circulate limited amounts of non-surrogate paper. Indeed, the query almost obtrudes itself at this point, why not use paper exclusively, instead of silver, as regulator-money, thereby securing the very great advantage of cheapness? The answer is, that the same reasons speak for silver here, which force us to insist

on a metallic backing for paper money in ordinary banking. Such backing is costly, but the paper is not safe without it. To be sure, sound banking is not usually thought to require a dollar-for-dollar reserve; yet there are many who believe that it does,¹ and it is certainly a fair question whether the losses attending uncovered paper are not greater in the long run than could come from the lessened interest and the enfeebled flexibility in the circulation, incident to a complete metal reserve. There is no other such emollient of a panic as the instant convertibility of paper into hard money. This is why the proposal under survey will deposit over against all certificates, actual dollars instead of so many dollar-amounts of bullion, which it would take a long time to coin.

It is undoubtedly an objection to the monetary reform proposed, that it could hardly hope for permanent triumph in the hands of one nation alone. To render success absolutely certain, at any rate, international concert would be a condition. But this would furnish no such forbidding complication as confronts international bimetallism, in that the concert might be far less formal than a treaty, and would involve no re-coining. It is perhaps a partial offset to this drawback, that our device would be accomplishing something to assuage international ill-feeling—to check and countermand the at present too lively, and increasing, tendency to individualism in national life.

In one respect our program would perhaps prove inferior to international bimetallism. It would at the outset and for long, little simplify exchange be-

¹See Hugh B. Willson, *Currency; or the Fundamental Principles of Monetary Science*. Putnams, 1882.

tween gold-using and silver-using countries. But this would result in time. Meanwhile the proposed measure would in no wise aggravate foreign exchange, which can attain its utmost simplicity only as the main money of nations becomes gold alone. The same condition must also obviously be met if we are ever to have an international coinage.

With a large class, no doubt, the damning fact about the proposition now outlined will be the dependence of it for execution upon the agency of the state. There is no time to discuss the point at length. But is this objection so weighty after all? Does it not derive most of its force from an *a priori* prejudice? Why should daily, hourly equity between man and man be forever a football to be kicked hither and thither in the unreasoning play of geology on the one hand and of credit on the other? "Nature," unassisted by reason, is elsewhere proving a tricky guide: why follow her so blindly in the dark forest of monetary science?

State intervention in fixing prices, of course does not mean immediate congressional agency. If it did, the proposition would assume a far different color. The work would be done by an able, dispassionate, non-partisan commission, similar to the Inter-State Commerce Commission, consisting, I would suggest, of the Secretary of the Treasury, the Director of the Mint and the Comptroller of the Currency *ex officio*, with four other men appointed by the President, say, the ablest statistician in the land, the ablest banker, and the ablest and next ablest specialists in monetary science. The *non-ex officio* members need not give their entire time to the government. The whole policy and proceedings of this board should be kept

before the public, like the ordinary doings of the Treasury Department, so that all competent and all incompetent persons at home and in other lands might be free to criticise and to offer suggestions. The commission could thus work, guided by the keenest financial intelligence of the world. No partisan or private interest could swerve it, nor could it, when once in career, make many mistakes. If, after all, any one, admitting the feasibility of the plan which I have set forth, yet decries it merely because it can be realized only through action by the public power, I will leave it to the reader if his scruple, rather than my motion of reform, does not betray the doctrinaire.

SUPPLEMENTARY NOTE.

I append, as throwing important light on part of the above discussion, the gist, kindly furnished me for the purpose, of a scientific study by Mr. WILLARD C. FISHER, Fellow of Cornell University, on The Monetary Need of the United States, at present.

In the period 1870-1888, there was an increase in the *per capita* circulation outside of the Treasury, from \$20.24 to \$22.46 ; but the increase in the amount of exchanging, that is in the demand for money, seems to have been much greater. For example, Poor's figures show that the amount of railway freight transportation rose from about 2½ tons in 1868 to 9.2176 tons in 1887 ; while the Census gives the *per capita* wealth in 1870 as \$780, and in 1880 as \$870. But the large numbers which express the business of America, are best understood when reduced to percentages, and I have, therefore, taken the amount of money in the circulation and the amounts of production, consumption, exchange, &c., in 1870, as the bases, and have computed the increase in percentages to the latest years for which data are accessible.

The standard against which the growth of industry is to be measured in this connection, is the rate of increase in the amount of circulating medium ; and for this the figures, from 1870, are to 1886, 59 per cent. ; to 1887, 70 per cent. ; to 1888, 77 per cent. Population

to 1888 shows an increase of 59 per cent.; cereal crops, 97 per cent.; pig iron produced, 290 per cent.; bales of cotton, 112 per cent.; postal receipts, notwithstanding two reductions in the charges, 167 per cent.; railway mileage, 235 per cent. From 1870 to 1887 some of the increments are: cotton consumed, 101 per cent.; tea, 106 per cent.; coffee, 117 per cent.; sugar, 88 per cent.; wool, 87 per cent.; tonnage entered and cleared in the foreign trade, 114 per cent.; freight carried on 13 trunk lines, carrying 22 per cent. of total in the United States, 317 per cent.; ton-miles of freight transportation on same lines, 333 per cent.; insurance against fire reported to the New York Department, being 80 to 90 per cent. of the whole, 203 per cent. To 1886 there was an increase in the coal mined of 225 per cent.; in hay cut, 70 per cent.; in potatoes, 46 per cent.; in tobacco, 37 per cent.

Other figures of the same general bearing might be given, but they would only fortify what is already proved by the cumulative evidence of the foregoing. This is that since 1870 the money work of this country has increased much more rapidly than has the amount of money in the circulation.

Next it will be necessary to inquire what have been the monetary changes in response to this demand for money. Extra demand for money induces (i) an increased supply, (ii) more rapid circulation, (iii) a wider use of money substitutes, as checks, drafts, book accounts, &c., (iv) barter transactions, (v) a rise in the value of money, i. e., a fall in prices. In one or more of these forms must appear the effect of the increased demand for money which has arisen in the United States. If relief is not had in the first four, the effect will show itself in the fifth.

I. It has been seen that the increase of the currency has not at all kept pace with the expansion of industry.

II. Improvements in the means of communication, and in the facilities for transporting money, the extension of savings-institutions, and the rising value of money itself, have all probably had a slight tendency to accelerate the circulation ; but the total effect of these causes must have been quite inconsiderable.

III. The operations of the clearing houses are presumably a fair index of the use of checks, and seem to show but a very moderate expansion during the period under consideration. The amount of the clearings at New York per head of the population of the country has each year since 1883 been less than in any one of the years between 1863 and 1874 or between 1879 and 1884, and has exceeded by only a little the clearings in the years of depression which intervened between the panic of 1873 and the revival of 1879. It is scarcely safe to draw conclusions from the scanty data of the other clearing houses; but, so far as these go, they point in the same direction. If the amount of deposits against which checks may be drawn be taken as the index of the extent to which they are actually drawn, a slightly greater increase seems probable ; but there is nothing to indicate that the use of checks has increased at equal rate with the exchanging of the country. An examination of the conditions under which book accounts fully take the place of money and checks, will make it quite clear that the range of this substitute for money not only is not extending, but is rather growing narrower.

IV. The amount of exchanging, such as grain for

ground stuff at mills, etc., still accomplished by pure barter in agricultural and comparatively backward communities is, in the aggregate, of considerable importance; but it too is rather diminishing than increasing.

V. The marked fall in prices has been attributed to many other causes, but usually not to insufficiency of money supply. Yet there has been a great increase in the demand for money or its substitutes; it can be shown as well as the nature of the subject permits, that none of the substitutes has met this demand, and it is beyond doubt that money has not. There can be but one conclusion. The universally recognized rise in the command of money over goods is in part due to the inadequacy of the money supply of the country to the money work that is to be done.

The same tendency which has had place in the past is likely to continue in the future. Improvements make possible a greater *per capita* production, and hence a greater consumption and more merchandising. Moreover, as society becomes additionally complex, middlemen increase and the number of exchanges multiplies. Odds and ends of production, too, and many spontaneous gifts of nature which were formerly allowed to waste are now saved, bought and sold. In all these ways the economic demand for money increases, and it must be met or prices must fall. It is equally impossible to draw a line in this regard between the past and present, and between foreign lands and our own.